

METRIC

MIL-PRF-62361D(AT)

21 June 1996

SUPERSEDING

MIL-M-62361C(AT)

1 August 1994

PERFORMANCE SPECIFICATION

MOTOR, DRIVE, DIRECT CURRENT: 2, 8, AND 6 .
REVOLUTIONS PER MINUTE

This specification is approved for use by the U.S. Army Tank-automotive and Armaments Command, Department of the Army, and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers three direct current (dc) drive motors which are intended to operate the optical focusing and controls on the night sight of military ground vehicles.

1.2 Classification. Motors consist of the following types as specified (see 6.2).

Type I - 2 revolutions per minute (rpm)

Type II - 8 rpm

Type III - 6 rpm

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: U.S. Army Tank-automotive and Armaments Command, ATTN: AMSTA-TR-E/BLUE, Warren, MI 48397-5000, by using the Standardization Document Improvement Proposal (DD Form 1426) appearing the end of this document, or by letter.

AMSC N/A

FSC 6105

DISTRIBUTION STATEMENT A Approved for public release, distribution is unlimited.

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3 and 4 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements documents cited in sections 3 and 4 of this specification, whether or not they are listed.

2.2 Government documents.

2.2.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DoDISS) and supplement thereto, cited in the solicitation (see 6.2).

STANDARDS

DEPARTMENT OF DEFENSE

MIL-STD-202	- Electronic and Electrical Component Parts, Test Methods for.
MIL-STD-461	- Control of Electromagnetic Interference Emissions and Susceptibility, Requirements for the.
MIL-STD-462	- Measurement of Electromagnetic Interference Characteristics, Test Method Standard for.
MIL-STD-810	- Environmental Test Methods and Engineering Guidelines.
MIL-STD-1275	- Characteristics of 28 Volt DC Electrical Systems in Military Vehicles.

(Unless otherwise indicated, copies of the above specifications and standards are available from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

2.2.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation.

DRAWINGS

ARMY

12265771	- Drive Motor, Direct Current, 8 RPM.
12265918	- Drive Motor, Direct Current, 2 RPM.
12406156	- Drive Motor, Direct Current, 6 RPM.

(Copies of U.S. Army drawings are available from the U.S. Army Tank-automotive and Armaments Command, ATTN: AMSTA-TR-E/BUE, Warren, MI 48397-5000.)

2.3 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted are those listed in the issue of the DoDISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DoDISS are the issues of the documents cited in the solicitation (see 6.2).

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI/ASQC Z1.4	- Sampling Procedures and Tables for Inspections by Attributes (DoD Adopted).
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(Copies of ANSI documents are available from the American National Standards Institute, 11 W. 42nd Street, New York, NY 10036.)

2.4 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 First article. When specified (see 6.2), a sample shall be subjected to first article inspection in accordance with 4.3.

3.2 Recycled, recovered, or environmentally preferable materials. Recycled, recovered, or environmentally preferable materials should be used to the maximum extent possible provided the material meets or exceeds all specified requirements and promotes economically advantageous life cycle costs.

3.2.1 Dissimilar metals. Unless suitably protected against galvanic corrosion, dissimilar metals shall not be placed in direct contact.

3.3 Operational needs.

3.3.1 Performance. Rated values cited in the following requirements shall be as specified in table I. Except as otherwise specified herein, all performance shall be required at an applied voltage of 24 ± 0.5 volts direct current (V dc).

TABLE I. Rated performance.

Performance	Motor		
	Type I	Type II	Type III
Rated speed - rpm	2	8	6 <u>1/</u>
Rated torque - Newton meter (N-m)	0.11	0.08	1.13
Driving torque - N-m	0.35	0.16	N/A
Slipping torque - N-m	1.06	0.31	N/A

1/ At an applied voltage of 18 ± 0.5 , -0.0 V dc

3.3.1.1 Rotation of output shaft. The shaft rotation as viewed from the shaft end shall be in a counterclockwise (CCW) direction with positive voltage applied to the plus (+) terminal of the filter. Reversing lead polarity shall reverse shaft rotation (see 4.5.1).

3.3.1.2 Speed and current. At rated torque, the type I and type II motors shall run at not less than the rated speed. For type I and II motors, the starting current shall not exceed 1.5 amperes (A), and running current shall not exceed 0.25 A dc (see 4.5.2). Type III motors shall meet the following requirements.

3.3.1.2.1 Type III speed. The type III motor shall have a speed of 6 ± 5 , -3 rpm in either direction of travel (see 4.5.3).

3.3.1.2.2 Type III starting current. The type III motor shall require no more than 700 milliampere (mA) of starting current with a 1.13 N-m load in either direction of travel. The type III motor shall have an electrical time constant of no longer than 1.0 milliseconds (ms) (see 4.5.4)

3.3.1.2.3 Type III torque. The type III motor with 300 mA of supplied current shall produce no more than 2.26 N-m and no less than 1.13 N-m load speed to stall in either direction of travel (see 4.5.5).

3.3.1.3 Type I and type II driving and slipping torque. The output shaft shall transmit rated speed in either direction of rotation at torque values up to the driving torque. At resisting torques above the driving torque for type I and type II motors, the output shaft shall begin to slip via an integral clutch at a value between driving and slipping torques. When torque reduces to the driving torque value, the integral clutch shall transmit the input torque without slippage (see 4.5.6).

3.3.1.4 Operating voltage. Type I and type II motors shall meet the requirements of 3.3.1.2, 3.3.1.3, and 3.3.1.6 with applied voltages between 18 and 30 V dc except that starting and operating currents shall not exceed 1.9 and 0.31 A respectively, and speed shall be not less than 1.5 rpm for type I motors or 6 rpm for type II motors (see 4.5.7).

3.3.1.5 Plug reversal. Type I and II motors shall perform in accordance with 3.3.1.3 after having been stopped from rated speed by plug reversal of an applied 30 V dc. For type III motors, plug reversal voltage shall be 18 V dc and performance shall be in accordance with 3.3.1.2. The plug reversal circuit shall conform to the following requirements (see 4.5.8).

- a. Resistance of switching circuit. The resistance of a circuit shall not exceed 0.6 ohm, excluding the motor.
- b. Voltage switching circuit. The typical direction of a switching sequence is CCW-OFF-clockwise (CW). The "OFF" switch position shall disconnect the motor leads from electrical power for at least 50 ms. Total plug reversal switching action time shall not exceed 250 ms.

3.3.1.6 Duty cycle. Type I and II motors shall conform to 3.3.1.2 and 3.3.1.3 after application of a duty cycle as specified in 4.5.9. Type III motors shall conform to 3.3.1.2.

3.3.1.7 Insulation resistance. The motor shall have an insulation resistance of not less than 12 megohms initially at 500 V dc prior to installation of the electromagnetic interference (EMI) filter (see 4.5.10).

3.3.1.8 Dielectric withstanding voltage. The motor shall be capable of initially withstanding 500 V root mean square (rms), 60 hertz (Hz), for one minute or 600 V rms, 60 Hz, for one second between armature winding and frame prior to installation of the EMI filter. There shall be no breakdown or degradation of insulation (see 4.5.11).

3.3.1.9 Lead strength. The unit shall not be damaged when the lead is pulled, under normal usage, in any direction at the motor or connector end (see 4.5.12).

3.3.1.10 Dimensions. ~~The motor dimensions and interfaces shall conform to the applicable drawings for the type specified, as follows (see 4.5.13):~~

- a. Type I motors shall conform to 12265918.
- b. Type II motors shall conform to 12265771.
- c. Type III motors shall conform to 12406156.

3.4 Environmental conditions.

3.4.1 Temperature.

3.4.1.1 High (operating). The motor shall meet requirements during exposure to a temperature of 60 degrees Celsius (°C) (see 4.6.1.1).

3.4.1.2 High (nonoperating). The motor shall not be damaged nor performance impaired after exposure to a temperature of 70°C (see 4.6.1.2).

3.4.1.3 Low (operating). The motor shall meet requirements during exposure to a temperature of -32°C (see 4.6.1.3).

3.4.1.4 Low (nonoperating). The motor shall not be damaged nor performance impaired after exposure to a temperature of -54°C (see 4.6.1.4).

3.4.2 Humidity.

3.4.2.1 Operating. The motor shall meet requirements when operating in an environment where the relative humidity ranges from 100 percent (%) at 30°C to 5% at 50°C (see 4.6.2).

3.4.2.2 Nonoperating. The motor shall not be damaged nor performance impaired after exposure to relative humidity from 100% at 30°C to 2% at 68°C (see 4.6.2).

3.4.3 Atmospheric pressure.

3.4.3.1 Operating. The motor shall meet requirements when operating at an atmospheric pressure equivalent to an altitude of 2400 meters (m) (see 4.6.3.1).

3.4.3.2 Nonoperating. The motor shall not be damaged nor performance impaired after exposure to an atmospheric pressure equivalent to an altitude of 12 000 m (see 4.6.3.2).

3.4.4 Sand and dust. The motor shall meet requirements when operating in a sand and dust environment containing particle sizes 0.0001 to 1 millimeter (mm) (see 4.6.4).

3.4.5 Salt fog. The motor shall not be damaged nor performance impaired after exposure to salt fog conditions (see 4.6.5)

3.4.6 Fungus. The motor shall be constructed of materials which are non-nutrients and shall not support fungus growth (see 4.6.6).

3.4.7 Vibration (nonoperating). The motor shall meet requirements and show no damage after exposure to simple harmonic motion in three mutually perpendicular directions in accordance with table II (see 4.6.7).

TABLE II. Vibration conditions.

Type I and II motors

Frequency (Hz)	Amplitude
5 to 6.2	12.7 mm double amplitude (da)
6.2 to 25	1 gravity force (g)
25 to 200	0.5 g

Type III motors

Frequency (Hz)	Amplitude
5 to 5.5	25.4 mm double amplitude (da)
5.5 to 500	1.5 g

3.4.8 Shock (nonoperating). The motor shall meet requirements and show no damage after exposure to half-sine wave shock impulses of 25 g for 11 ms (see 4.6.8).

3.4.9 Transient voltage. The motor shall meet the requirements during exposure to transient voltage (see 4.6.9).

3.5 Electromagnetic interference. The motor shall comply with emissions and susceptibility requirements of MIL-STD-461, class A (see 4.7).

4. VERIFICATION

4.1 Classification of inspections. The inspection requirements specified herein are classified as follows:

- a. First article inspection (see 4.3).
 1. Preproduction inspection (see 4.3.1).
 2. Initial production inspection (see 4.3.2).
- b. Conformance inspections (see 4.4).

4.2 Inspection conditions. Unless otherwise specified (see 6.2), all inspections shall be performed using the following standard (room) ambient conditions:

- a. Temperature: $25 \pm 10^{\circ}\text{C}$.
- b. Relative humidity: Uncontrolled room ambient site pressure.
- c. Atmospheric pressure: Site pressure.

4.3 First article inspection. First article inspection shall be performed on preproduction and initial production samples as specified herein. Approval of the first article sample by the Government shall not relieve the contractor of the obligation to supply motors that are fully representative of those inspected as a first article sample. Any changes or deviation of the production units from the first article sample shall be subject to the approval of the contracting officer.

4.3.1 Preproduction inspection. When specified (see 6.2), the preproduction sample shall consist of four motors. Inspections and tests specified in table III shall be performed.

4.3.2 Initial production inspection. Unless otherwise specified (see 6.2), the Government shall select four motors from the first twenty motors produced under the production contract for initial production inspection. Inspections and tests specified in table III shall be performed.

4.4 Conformance inspection. Conformance inspection shall include the examinations and tests listed in table III.

4.4.1 Sampling. Unless otherwise specified (see 6.2), the sampling plan for the conformance inspection shall be in accordance with ANSI/ASQC Z1.4.

TABLE III. Inspection

Description	Requirements	Verification	First article	Conformance test
Rotation of output shaft	3.3.1.1	4.5.1	X	X
Speed and current	3.3.1.2	4.5.2	X	X
Type III speed	3.3.1.2.1	4.5.3	X	X
Type III starting current	3.3.1.2.2	4.5.4	X	X
Type III torque	3.3.1.2.3	4.5.5	X	X
Driving and slipping torque	3.3.1.3	4.5.6	X	X
Operating voltage	3.3.1.4	4.5.7	X	
Plug reversal	3.3.1.5	4.5.8	X	X
Duty cycle	3.3.1.6	4.5.9	X	X
Insulation resistance	3.3.1.7	4.5.10	X	X
Dielectric withstanding voltage	3.3.1.8	4.5.11	X	X
Lead strength	3.3.1.9	4.5.12	X	X
Dimensions	3.3.1.10	4.5.13	X	X
High operating temperature	3.4.1.1	4.6.1.1	X	

TABLE III. Inspection - Continued.

Description	Requirements	Verification	First article	Conformance test
High nonoperating temperature	3.4.1.2	4.6.1.2	X	
Low operating temperature	3.4.1.3	4.6.1.3	X	
Low nonoperating temperature	3.4.1.4	4.6.1.4	X	
Operating humidity	3.4.2.1	4.6.2	X	
Nonoperating humidity	3.4.2.2	4.6.2	X	
Operating pressure	3.4.3.1	4.6.3.1	X	
Nonoperating pressure	3.4.3.2	4.6.3.2	X	
Sand and dust	3.4.4	4.6.4	X	
Salt fog	3.4.5	4.6.5	X	
Fungus	3.4.6	4.6.6	X	
Vibration (nonoperating)	3.4.7	4.6.7	X	
Shock (nonoperating)	3.4.8	4.6.8	X	
Transient voltage	3.4.9	4.6.9	X	
Electromagnetic interference	3.5	4.7	X	

4.5 Performance tests.

4.5.1 Rotation of output shaft. To determine conformance to 3.3.1.1, with the motor energized at operating voltage, the motor output shaft shall be observed to rotate CCW when viewed from the shaft end, with positive voltage applied to the positive terminal of the filter and negative voltage applied to the negative terminal of the filter. Lead polarity shall be reversed to verify CW shaft rotation.

4.5.2 Speed and current. To determine conformance to 3.3.1.2, type I and type II motors shall be energized at operating voltage. The current required to start the motor shall be measured by an oscilloscope. The starting current shall be checked. The loading shall be adjusted to not less than rated torque, and the resultant speed and current measured for both directions of rotation. The running current shall be checked.

4.5.3 Type III speed. To determine conformance to 3.3.1.2.1, a voltage of 18 ± 0.5 , -0.0 V dc and maximum current limited to 300 mA shall be applied to the motor. It shall be verified that motor shaft speed is 6 ± 5 , -3 rpm for no load and for an increasing load up to 1.13 N-m of torque for CW and CCW rotations.

4.5.4 Type III starting current. To determine conformance with 3.3.1.2.2, it shall be verified that the motor shall start with a current that does not exceed 700 mA with 1.13 N-m of torque applied for CW and CCW rotations. Compliance with the electrical time constant shall be verified by analysis.

4.5.5 Type III average stall torque. To determine conformance with 3.3.1.2.3, the motor shall be supplied with 300 mA current. It shall be verified that the average stall torque derived from 15 individual stall events is between 1.13 N-m and 2.26 N-m and that any individual stall torque measured is greater than .74 N-m and less than 3.05 N-m, for CW and CCW rotation.

4.5.6 Driving and slipping torque. To determine conformance to 3.3.1.3, the motor shall be energized at rated voltage. The loading device shall be adjusted up to the driving torque and the output shaft of type I and type II observed for slippage. The load on the shaft shall be increased to above the driving torque. The output shaft shall stop at a value between the driving torque and slipping torque. The load shall be removed from the shaft and reapplied at not more than the driving torque, and the output shaft shall be observed for no slippage. The above shall be repeated in the opposite direction of rotation.

4.5.7 Operating voltage. To determine conformance to 3.3.1.4, the type I and type II motors shall be tested according to 4.5.2, 4.5.6, and 4.5.9 with 18 V dc applied, and again with 30 V dc applied.

4.5.8 Plug reversal. To determine conformance to 3.3.1.5, the motor shall be energized at 30 ± 0.1 V dc. With the output shaft rotating at least at rated speed, the motor shall be plug reversed by applying a voltage of the opposite polarity to that imposed on the motor. At the conclusion of the plug reversal test, the motor shall be inspected according to 4.5.9.

4.5.9 Duty cycle. To determine conformance to 3.3.1.6, the motor shall be tested according to 4.5.9.1 or 4.5.9.2.

4.5.9.1 Long cycle. For the first article test, the motor shall be energized with rated voltage and subjected to the following:

- a. Type I and II motors ON for 40 seconds with type III ON for 30 seconds consisting of the following operations in the order specified:
 1. Fifteen seconds transmitting rated torque.
 2. Five seconds with maximum driving torque exceeded and the clutch slipping for type I and II motors.
 3. Plug reversal by the application of voltage of the opposite polarity to that imposed on the motor (see 3.3.1.5).
 4. Fifteen seconds transmitting torque in the opposite direction at rated torque and at least rated speed. For type I and II motors perform steps 5 and 6.
 5. While the output shaft is rotating at rated speed with the rated torque load, plug reversal by the application of voltage of the opposite polarity to that imposed on the motor (see 3.3.1.5).
 6. Five seconds transmitting rated torque.

- b. OFF for 30 seconds.
- c. Type I and II motors ON for 40 seconds with type III ON for 30 seconds, consisting of the following operations in the order specified:
 - 1. Thirty seconds transmitting rated torque for type I and II motors. Twenty five seconds for type III.
 - 2. Five seconds with the clutch slipping for type I and II motors.
 - 3. Plug reversal by the application of voltage of the opposite polarity to that imposed on the motor (see 3.3.1.5).
 - 4. Five seconds transmitting rated torque in the opposite direction.
- d. OFF for 30 seconds.
- e. Repeat steps a through d inclusive for 15 cycles.

4.5.9.2 Short cycle. For the conformance test, the motor shall be energized with rated voltage and subjected to the following:

- a. Type I and II ON for 15 seconds with type III on for 10 seconds consisting of the following operations in the order specified:
 - 1. Five seconds transmitting rated torque.
 - 2. Five seconds with driving torque exceeded and the clutch slipping for type I and II motors.
 - 3. Plug reversal by the application of voltage of the opposite polarity to that imposed on the motor (see 3.3.1.5).
 - 4. Five seconds transmitting torque in the opposite direction at rated torque.

4.5.10 Insulation resistance. To determine conformance 3.3.1.7, the insulation resistance of the motor shall be measured prior to installation of the EMI filter. **Insulation resistance shall be tested as specified in MIL-STD-202, method 302, condition B, conducted at 500 V dc, and measured between winding and case.**

4.5.11 Dielectric withstanding voltage. To determine conformance to 3.3.1.8, prior to installation of the EMI filter, the motor shall be subjected to dielectric withstanding voltage in accordance with MIL-STD-202, method 301. The voltage shall be 500 V rms, 60 Hz, for one minute; or 600 V rms, 60 Hz, applied for one second between winding and frame.

4.5.12 Lead strength. To determine conformance to 3.3.1.9, the motor and filter ends shall be attached to a spring scale and a force of 22 N shall be applied for one minute. The test shall be applied at random direction with respect to the exit location of the wire from the motor and the attachments of wire to the filter.

4.5.13 Dimensions. To determine conformance to 3.3.1.10, the motor dimensions affecting interchangeability shall be determined by examination.

4.6 Environmental tests.

4.6.1 Temperature.

4.6.1.1 High (operating). To determine conformance to 3.4.1.1, the motor shall be tested in accordance with MIL-STD-810, method 501.3, procedure II. Temperature shall be 60°C.

4.6.1.2 High (nonoperating). To determine conformance to 3.4.1.2, the motor shall be tested in accordance with MIL-STD-810, method 501.3, procedure I. Temperature shall be 70°C.

4.6.1.3 Low (operating). To determine conformance to 3.4.1.3, the motor shall be tested in accordance with MIL-STD-810, method 502.3, procedure II. Temperature shall be -32°C.

4.6.1.4 Low (nonoperating). To determine conformance to 3.4.1.4, the motor shall be tested in accordance with MIL-STD-810, method 502.3, procedure I. Temperature shall be -54°C.

4.6.2 Humidity. To determine conformance to 3.4.2.1 and 3.4.2.2, the motor shall be tested in accordance with MIL-STD-810, method 507.3, procedure I.

4.6.3 Atmospheric pressure.

4.6.3.1 Operating. To determine conformance to 3.4.3.1, the motor shall be placed in a chamber, and a pressure equivalent to an altitude of 2400 m shall be applied. After not less than six hours in this stabilized condition and with no change in temperature or pressure, the test article shall meet the functional test requirements.

4.6.3.2 Nonoperating. To determine conformance to 3.4.3.2, the motor shall be tested in accordance with MIL-STD-810, method 500.3, procedure I. The chamber pressure shall be decreased to the equivalent of 12 000 m (430 mm Mercury (Hg)) at a rate not to exceed 600 meters per minute (m/min).

4.6.4 Sand and dust. To determine conformance to 3.4.4, the motor shall be tested in accordance with MIL-STD-810, method 510.3, procedure I, except the temperature during step 5 shall be limited to 60°C.

4.6.5 Salt fog. To determine conformance to 3.4.5, the motor shall be tested in accordance with MIL-STD-810, method 509.3, procedure I.

4.6.6 Fungus. To determine conformance to 3.4.6, the motor shall be tested in accordance with MIL-STD-810, method 508.4. In lieu of a test, certification with supporting data may be provided, attesting that the motor is constructed of materials that will not support fungus growth.

4.6.7 Vibration (nonoperating). To determine conformance to 3.4.7, the motor shall be tested in accordance with MIL-STD-202, method 204, except that the frequency range and amplitudes shall conform to table II.

4.6.8 Shock (nonoperating). To determine conformance to 3.4.8, the motor shall be tested in accordance with MIL-STD-202, method 213B, condition J, except a 25 g shock level for 11 ms shall apply.

4.6.9 Transient voltage. To determine conformance to 3.4.9, the motor shall be subjected to transient voltages as specified in MIL-STD-1275.

4.7 Electromagnetic interference. To determine conformance to 3.5, the motor shall be tested in accordance with methods CE102 and RE102 of MIL-STD-462.

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of materiel is to be performed by DoD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department or Defense Agency, or within the Military Department's System Command. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

6. NOTES

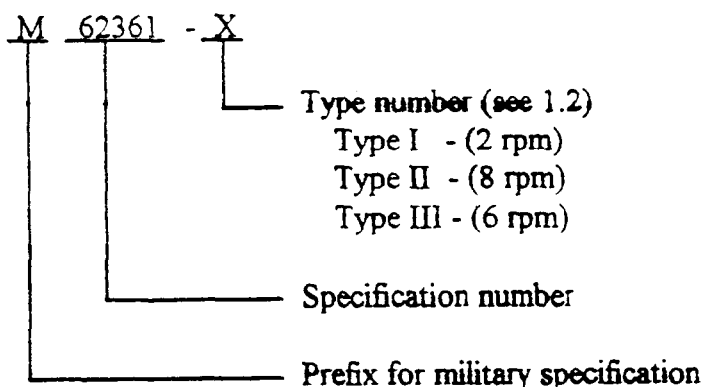
(This section contains information of a general or explanatory nature which may be helpful, but is not mandatory.)

6.1 Intended use. These motors are intended to operate the night sight (AN/TAS-4 and 4A) controls on the M901 and M981 military ground vehicles.

6.2 Acquisition requirements. Acquisition documents must specify the following:

- a. Title, number, and date of this specification.
- b. Title, number, and date of applicable drawing.
- c. Type of motor required (see 1.2).
- d. Issue of DoDISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.2.1 and 2.3).
- e. If first article is required (see 3.1).
- f. If inspection conditions are other than as specified (see 4.2).
- g. If preproduction inspection is required (see 4.3.1).
- h. If initial production inspection is not required (see 4.3.2).
- i. If conformance inspection sampling plan is other than as specified (see 4.4.1).
- j. Packaging requirements (see 5.1).

6.3 Part or identifying number (PIN). PINs to be used for motors acquired to this specification are created as follows:



6.4 Subject term (key word) listing.

Bearings
 Duty cycle
 M901
 M981
 Night sight
 Optical focusing
 Output shaft

6.5 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

Custodian:
Army - AT

Preparing Activity:
Army - AT

(Project 6105-0184)

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.
2. The submitter of this form must complete blocks 4, 5, 6, and 7.
3. The preparing activity must provide a reply within 30 days from receipt of the form.

NOTE: This form may not be used to request copies of documents, nor to request waivers, or clarification of requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

1. RECOMMEND A CHANGE:	1. DOCUMENT NUMBER	2. DOCUMENT DATE (YYMMDD)
	MIL-PRF-62361D(AT)	960621

3. DOCUMENT TITLE
Motor, Drive, Direct Current: 2, 8, and 6 Revolutions Per Minute

4. NATURE OF CHANGE (Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)

5. REASON FOR RECOMMENDATION

6. SUBMITTER		
a. NAME (Last, First, Middle Initial)	b. ORGANIZATION	
c. ADDRESS (Include Zip Code)	d. TELEPHONE (Include Area Code)	7. DATE SUBMITTED (YYMMDD)
	(1) Commercial	
	(2) AUTOVON (if applicable)	

8. PREPARING ACTIVITY	
a. NAME	b. TELEPHONE (Include Area Code)
	(1) Commercial (810) 574-8745
	(2) AUTOVON 786-8745
c. ADDRESS (Include Zip Code) Commander U.S. Army Tank-automotive and Armaments Command, ATTN: AMSTA-TR-E/BLUE, Warren, Mi 48397-5000	IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT: Defense Quality and Standardization Office 5203 Leesburg Pike, Suite 1403, Falls Church, VA 22041-3466 Telephone (703) 756-2340 AUTOVON 289-2340